

# **Exhibit 123**



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## Statement from the National Museum of American History: Collection of Materials from V.A. Shiva Ayyudurai

February 23, 2012

On Feb. 16, the Smithsonian's National Museum of American History collected a selection of materials from Shiva Ayyadurai of MIT. In accepting these objects, the museum did not claim that Ayyadurai was "the inventor of email," as some press accounts have alleged.

Exchanging messages through computer systems, what most people call "email," predates the work of Ayyadurai. However, the museum found that Ayyadurai's materials served as signposts to several stories about the American experience. The objects collected include: two program printouts, two tape cassettes, a reel of computer tape and a variety of other materials related to an electronic mail program Ayyadurai developed for the College of Medicine and Dentistry of New Jersey as a high school student at Livingston High School in Livingston, N.J., in 1979. He continued to maintain that program for a few years as an MIT undergraduate. The museum found the materials historically interesting and worth collecting for several reasons:

- ▶ One important story these materials document relates to computer education. Personal computers had begun to enter American homes in the late 1970s, but they were expensive, untrustworthy and not very powerful. To introduce students to computing, the U.S. government, private foundations and universities combined to fund and staff summer programs for high school students. Ayyadurai participated in such a program at New York University's Courant Institute in summer 1978, where he had an intense introduction to programming. He gave the museum a few documents relating to this experience.
- ▶ A second story relates to the role of computers in medicine. Thus far, most scholarship in the area has focused on the role of computers in medical research and instrumentation. However, these materials document an effort to innovate in medical communication systems. In 1979, Ayyadurai worked under the supervision of Leslie P. Michelson of the New Jersey College of Medicine and Dentistry to design and implement a customized electronic mail system for the research staff of the medical school, who used an HP1000 minicomputer. Most of the documents he gave to the museum relate to this work. They include a printout of his FORTRAN program, which he named "EMAIL," as well as documents used to explain this new way of communicating with staff and an example of a request for debugging. The EMAIL project proved sufficiently successful for Ayyadurai to use it as the basis of a Westinghouse Science Talent Search project prepared in 1980. The donation also included materials relating to this award.

At the time Ayyadurai's work was done, computer software could not be patented. However, in 1982, he took out a copyright registration for his "EMAIL" program, as well as the related user's manual. Two years later he copyrighted an improved system, "EMS," that included not only a version of "EMAIL," but several other programs. He has given the copyright documents to the Smithsonian, as well as a printout of the new form of EMAIL.

Many innovations are conceived independently in different settings. Historians who have documented the early history of electronic messaging have largely focused on the use of large networked computers, especially those linked to the ARPANET in the early 1970s. Ayyadurai's story reveals a contrasting approach, focusing on communicating via linked computer terminals in an ordinary office situation. The system was localized, linking only three campuses rather than multiple large institutions. It was a small enterprise, rather than a big enterprise story.

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